

*NATICA GUESTI*, A NEW NATICID GASTROPOD  
FROM THE WESTERN ATLANTIC

**M. G. Harasewych**

Research Associate  
Department of Invertebrate Zoology  
National Museum of Natural History  
Smithsonian Institution, Washington, D.C.

**Russell H. Jensen**

and  
Department of Mollusks  
Delaware Museum of Natural History  
Greenville, DE 19807

For more than a decade the deep-water trawling operations of the Lightbourn-Guest North Star Expeditions, conducted off the south shore of Bermuda, have brought up numerous hermit-crab-borne molluscan shells. Many of these specimens represented considerable range extensions (Finlay, 1978; Finlay and Vink, 1982; Snyder 1984) and several new species (Harasewych and Jensen, 1979; Snyder, 1984; Okutani and Goto, 1983). Included in this material were numerous examples of a new species of naticid that is described herein.

Examination of the molluscan collections at the Museum of Comparative Zoology, Harvard University, and at the National Museum of Natural History, Smithsonian Institution, revealed that this species is widely distributed, occurring in Bermuda, along the southeastern coast of the United States as well as throughout the Gulf of Mexico and the Caribbean Sea.

Institutional abbreviations: AMNH, American Museum of Natural History, New York; DMNH, Delaware Museum of Natural History; MCZ, Museum of Comparative Zoology, Harvard University; USNM, National Museum of Natural History, Smithsonian Institution.

Family Naticidae Gray, 1840

Genus *Natica* Scopoli, 1777

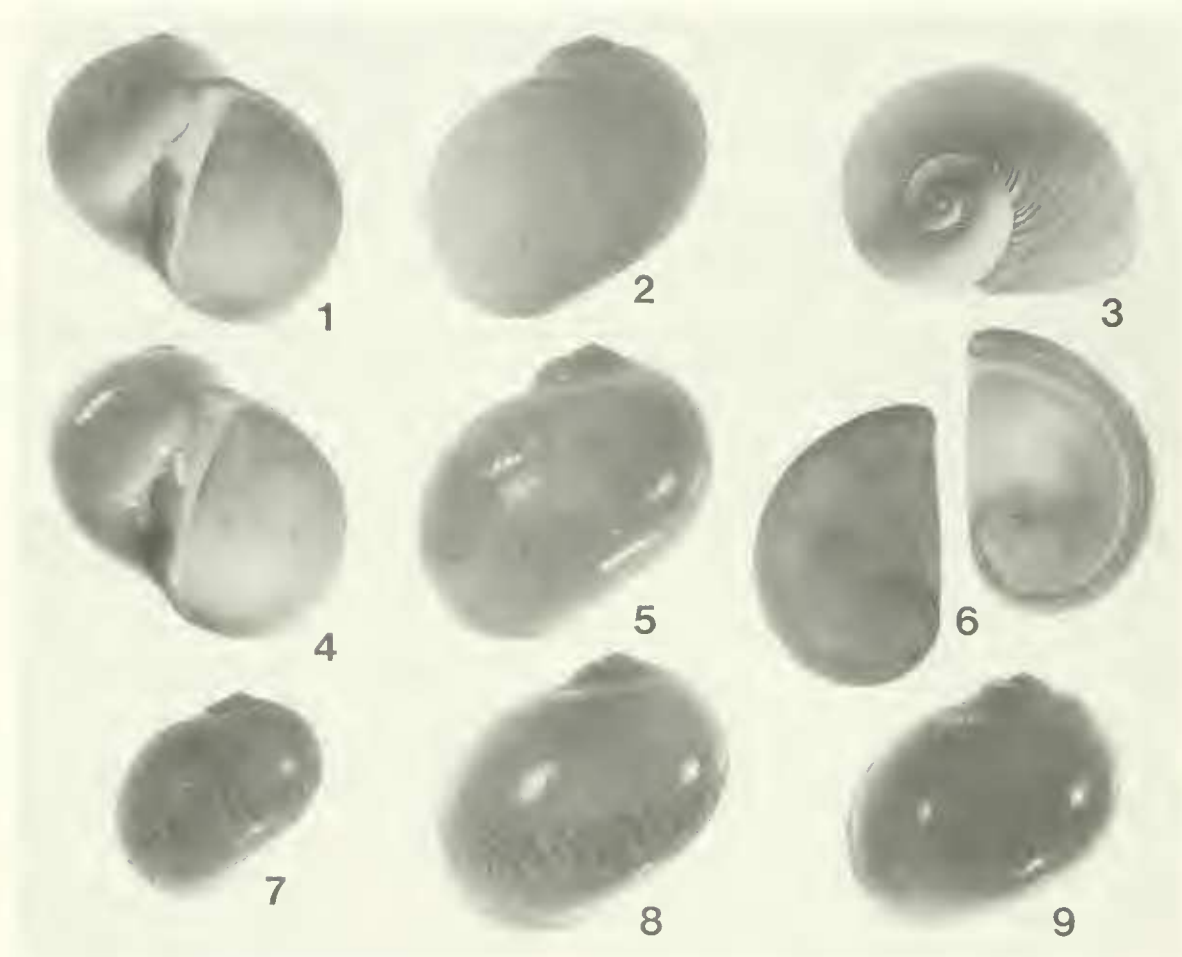
*Natica (Natica) guesti* new species

(Figs. 1-11)

*Description*—Shell of moderate size (to 33 mm), globose, thin but strong; spire angle 111°–136°; protoconch (Fig. 10) of 2¼ whorls, smooth, glossy, straw-colored; transition to teleoconch abrupt, marked by beginning of regular incised furrows; teleoconch with up to 3½ smooth, rounded whorls; suture adpressed; axial sculpture of fine growth lines and incised furrows that become pronounced to form fine ribs along suture; umbilicus narrow, deep; funicle small, situated at midpoint of columella; parietal

callus reduced, extending along apical ⅓ of columella; aperture large, subcircular; interior glossy, translucent; shell color milky beige, with lighter band below suture; other markings, when present, comprised of spiral bands of brown dots or flammules, one midway between suture and periphery, one just below periphery, and rarely a third one midway between periphery and base; periostracum very thin, straw-colored; operculum (Fig. 6) calcareous, paucispiral; nuclear callus raised; a deep, wide, flat-bottomed groove and 2 raised ribs border periphery; outer surface of operculum pure white; inner surface straw-colored; radular ribbon (Fig. 11) (one examined) taenioglossate, short (0.22 shell height), consisting of 81 rows of teeth; rachidian trapezoidal, with broad attachment area and 2 blunt basal processes; cutting edge tricuspid, central longer than flanking cusps; lateral tooth with complex, hourglass-shaped attachment area, anterior portion giving rise to broad, rounded cutting edge with one large cusp flanked by reduced cusps; inner marginal tooth broad, curved, bicuspid, outer cusp broader, blunter; outer marginal tooth simple, scythe-shaped.

*Type material*—**Holotype**: USNM 765087, in 201 m, about 40 miles NW of St. Martin, Leeward Islands (18°13'N, 63°19'W) R/V *Oregon* sta. 5914. **Paratypes**: USNM 765077, in 384 m, about 50 miles SW of St. Croix, Virgin Islands (18°14'N, 64°20'W) R/V *Oregon* sta. 2646 (1 specimen); USNM 765079, in 404 m, about 20 miles NNW of Mayaguez, Puerto Rico (18°32'N, 67°09'W) R/V *Oregon* sta. 2659 (1 specimen); USNM 765080, in 210-201 m, about 70 miles SSE of Pascagoula, Mississippi (29°15'N, 88°05'W) R/V *Oregon* sta. 2826 (1 specimen); USNM 765081, in 320-347 m, about 20 miles NNW of Riohacha, Colombia (11°50'N, 73°05'W) R/V *Oregon* sta. 4911 (2 specimens);



FIGS. 1-9. *Natica guesti* new species. 1-5, Holotype, USNM 765087, trawled in 201 meters, about 40 miles NW of St. Martin, Leeward Islands ( $18^{\circ}13'N$ ,  $63^{\circ}19'W$ ) R/V Oregon sta. 5914,  $1.5\times$  (Figs. 1-3 whitened with ammonium chloride to enhance sculptural details). 6, Operculum of holotype,  $2.0\times$ . 7, Paratype, dredged in 174 meters, off St. James, Barbados, C. J. Finlay collection,  $1.75\times$ . 8, Paratype, DMNH 164500, in trap set in 347 meters,  $2\frac{1}{2}$  miles off Castle Roads, Bermuda, Lighthourn-Guest Northstar Expeditions,  $1.5\times$ . 9, Paratype, USNM 765082, trawled in 274 meters, about 40 miles E of El Portete, Guajira Peninsula, Colombia ( $12^{\circ}17'N$ ,  $72^{\circ}03'W$ ) R/V Oregon sta. 4921,  $1.0\times$ .

USNM 765082, in 274 m, about 40 miles E of El Portete, Colombia ( $12^{\circ}17'N$ ,  $72^{\circ}03'W$ ) R/V Oregon sta. 4921 (2 specimens); USNM 765084, in 320 m, off Bridgetown, Barbados ( $13^{\circ}00'N$ ,  $59^{\circ}33'W$ ) R/V Oregon sta. 5018 (3 specimens); USNM 765085, in 205 m, off Puerto Obaldia, Panama ( $8^{\circ}51'N$ ,  $77^{\circ}25'W$ ) R/V Oregon sta. 5734 (1 specimen); USNM 765086, in 296 m, about 20 miles NW of St. Martin, Leeward Islands ( $18^{\circ}11'N$ ,  $63^{\circ}15'W$ ) R/V Oregon sta. 5913 (1 specimen); USNM 765088, in 165 m, W of St. Lucia, Windward Islands ( $13^{\circ}41'N$ ,  $60^{\circ}53'W$ ) R/V Oregon sta. 5955 (1 specimen); DMNH 96986, in traps set in 402 m,  $2\frac{1}{2}$  miles off Castle Roads, south shore Bermuda, Light-

bourn-Guest Northstar Expeditions (1 specimen); DMNH 164500 and AMNH 213734, in traps set in 347 m,  $2\frac{1}{2}$  miles off Castle Roads, south shore, Bermuda, Lighthourn-Guest Northstar Expeditions (7 specimens); MCZ 294668, in 146-183 m,  $\frac{3}{4}$  mile off Castle Rock, Bermuda, Bermuda Biological Station #7 (2 specimens); MCZ 294667, in 421 m, off Puerto Tanamo, Cuba ( $20^{\circ}45'N$ ,  $75^{\circ}20'W$ ) Atlantis sta. 3375 (1 specimen); C. J. Finlay collection, dredged in 174 m, off St. James, Barbados (1 specimen); J. R. H. Lighthourn collection, in traps set in 340-400 m,  $2\frac{1}{2}$  miles off Castle Roads, south shore, Bermuda, Lighthourn-Guest Northstar Expeditions (14 specimens); A. T. Guest collec-

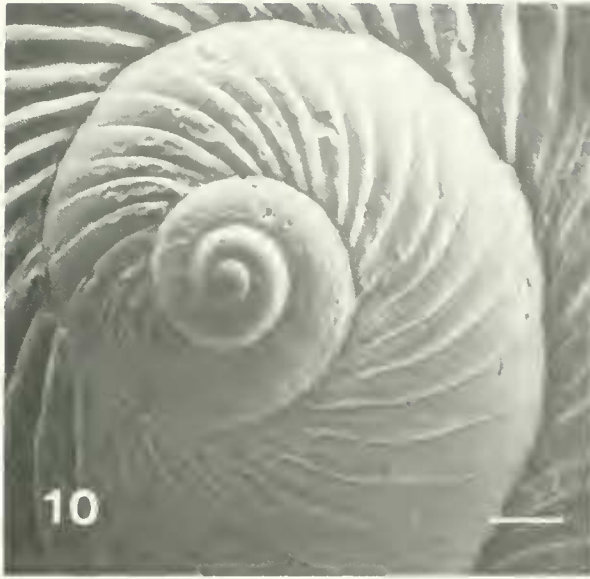


FIG. 10. *Natica guesti* new species, protoconch, scale bar = 500  $\mu$ m.



FIG. 11. Half row of radular ribbon taken from the holotype, scale bar = 100  $\mu$ m.

tion, in traps set in 340-400 m, 2½ miles off Castle Roads, south shore, Bermuda, Lightbourn-Guest *Northstar* Expeditions (12 specimens).

*Type locality*—In 201 meters, about 40 miles NW of St. Martin, Leeward Islands (18°13'N, 63°19'W) R/V *Oregon* sta. 5914.

*Remarks*—This new species may be distinguished from other western Atlantic naticids by its moderate size, globose shape, small funicle, deep umbilicus and distinctive operculum. *Natica guesti* most closely resembles the Mediterranean species *N. dillwynii* Payraudeau, 1826, from which it differs in being larger, and having a greater spire angle, a less pronounced funicle, fine axial ribs adjacent to the suture, and lacking the 3 or 4 white spiral bands. Opercula of these two species are similar, but the marginal groove is proportionally much broader in *N. guesti*.

*N. proxima* C. B. Adams, 1850, from Jamaica (non Wood, 1848) has a higher spire and proportionately larger funicle. Dall (1889, p. 292) synonymized *proxima* with *maroccana* Dillwyn, 1817.

Although introductions of European species into Bermuda waters have been documented (Abbott and Jensen, 1968), the wide geographic and deep bathymetric ranges of *N. guesti* argue convincingly against it being a recently introduced species.

It was through the intensive investigations of

TABLE 1. Shell measurements of *Natica guesti* (linear measurements in mm) n = 10.

Character	mean	range	standard deviation
shell height	23.02	11.4-32.6	6.98
shell width	22.51	11.6-30.3	6.44
aperture height	17.56	9.4-25.0	5.32
<u>aperture height</u>			
shell height	0.83	0.80-0.87	0.02
whorls, teleoconch	2.83	2.3-3.1	0.30
spire angle	119.4°	111°-134°	7.3°

the mollusks of Bermuda by Arthur T. Guest, of Cardinal Hill, Bermuda, that this species came to light, so we take great pleasure in naming this taxon in his honor. The popular, English name for this species may be Guest's Moonshell.

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